the images, which he read before. The illustration section will meet the artist's vision their imagination. There is important that illustrations does not appear in front of visitors unexpectedly, it will be logical continuation of the previous stages. Thus, it will be demonstrated as unseparated text, image, and importance of their harmony combination.

5. *Associative composition of simple geometric shapes:* Further illustrations will be transformed in associative composition of simple geometric shapes. It is destroy of perfection, which was attained in the harmony fonts and illustrations. Knowing how to read the materials human nature can successfully create book. We can only try to look into this nonobjective world. Last section demonstrate that whole maze it is only beginning of the journey into the world of books.

Conclusion. Suggested study is the opportunity of every visitor to face the problems, which usually are met by designers and text creators. Project will show that printing is not only a source of information, but it is artwork also. Project is developed to increase the quality of daily graphic design on the base of EI.

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VOIDED BIAXIAL SLABS IN CIVIL ENGINEERING

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Recent developments in construction technologies have heightened the need for implementation of new building facilities. Installation of lightweight voiding blocks is recognized as an important component in the construction systems and plays a key role in reducing the weight of bearing and sustainable constructions (slabs). It is noteworthy to mention R.B. Fuller's recommendation to measure building's weight for measuring its perfection [cit.ex.1]. The aim of the paper has been to give a basic overview of major developments of voided biaxial slab in the history of construction practice.

The main concept addressed in this paper is *voided biaxial slab* (VBS). While a variety of its interpretations have been known, the working definition designates it as "reinforced concrete slabs, in which voids allow to reduce the amount (volume) of concrete" [2].

Previous studies indicate that preliminary endeavors of reducing the weight of construction elements have been pursued since the times immemorial. Moreover, the significant positive correlation between weight and geometrical parameters of constructions was noticed long ago. Therefore, starting from the ancient era architects have been reducing the weight of constructions by varying geometrical and physical properties of the voiding blocks. The key aspects of modifying their geometrical properties can be listed as follows: a) making voiding blocks ribbed; b) thickness reduction by relieving a load; c) installation of inner hollows with incased ceramic jars, pipes, etc. The adapting physical properties of voiding blocks involved a reduction of concrete density, which, in its turn, caused a relieving of the load on understructures [3].

The above mentioned techniques of reducing a construction weight basically remain unchanged to the present day. For instance, general cross-section shapes of floor slabs remain essentially the same: solid, hollow and ribbed [4]. Simplicity of making the formwork, reinforcement and concreting is among the strong points of solid slabs. Nonetheless, they have greater material consumption than ribbed ones. The latter have disadvantage, concerning their complicated formwork.

The usage of hollowed slabs with identical formwork to solid slabs and similar material consumption to ribbed slabs, may serve as a compromise solution to the issue. The prototype of VBS was hollow-core slab, which appeared in the 1950s. These floor slabs were one-way spanning, prefabricated elements with hollow cylinders. The development of the conception of voided or hollow core system was aimed at placing formers between the upper and lower static reinforcement of a concrete slab to replace concrete in zones, where it has no structural benefit and reduces the weight of slab [5]. A maximally hollowed slab has the least material consumption.

However, in this case the possibility of concrete collapse, when retrieving core formers, is rather high. To avoid this disadvantage it is necessary to use *irretrievable void formers* (IVF) made of light-weight material. Besides, using core formers, made of foam polystyrene or mineral wool, fosters a significant improvement of thermal and soundproof qualities of the floor slabs.

Despite VBS's reduced resistances towards shear, local punching and fire, the fact remains that it is a prospective solutions due to its less weight and the ability to create large spans. Currently, there is a variety of different designs of VBS. They mostly depend on IVF. For instance, using polystyrene core formers is a traditional technique to minimize weight. But, in spite of this solution's simplicity, it is a labour-consuming process, depending on a human factor [6].

Consequently, researchers made many attempts to improve this solution. An example is the BubbleDeck® technology, invented in the 1990s. It has been the first technique to create a voided floor with the same capabilities as a solid slab due to the placement of locking ellipsoids between the top and the bottom reinforcement meshes [7]. Another example is the Cobiax system which was developed in 1997. This technology is based on a similar principle and uses elliptical & torus shaped hollow plastic members as void formers [8].

Later in 2001 the U-boot system was developed in order to minimize CO2 emission and decrease the transportation costs. The U-Boot blocks are made of recycled polypropylene and assembled on the building site. The latter is the main advantage of this system. Moreover, the U-boot model provides in its design a grid of orthogonal beams to enhance reinforcement calculation according to the Eurocode and other regional standards. For the first time the U-boot system was implemented in 2002 and thereafter it has been used worldwide [9].

The conception, developed in 2003, is Airdeck. It has the basic advantages of the U-boot system (i.e., ability of formers to be nested and usage of recycled polypropylene for producing IVF). Besides, the strong point of this system is lack of necessity to use retaining mesh to hold down IVF during the concreting of the second layer [10].

Hence, various types of voided slab systems have been designed for nearly three decades worldwide, but these solutions have not yet become recognizable and applicable in Ukraine's modern monolithic construction. It is caused by a lack of studies on the technology and organization of VBS production. Furthermore, these solutions are more complicated as compared to characteristics of solid-core slabs. Therefore, research aimed at the improvement of the light-weight slab installation technologies will facilitate material resources conservation.

The overview of VBS applications reveals that although their research and specifications for composite construction started very early, but their sustainable development has gained prominence on the international level quite recently, only at the beginning of the 20th century. Therefore, versatile constructive alternatives of the voids under elucidation and their technology must be modified and improved in the near future.

Due to high price of available innovative VBS, their implementation becomes impossible for Ukrainian building market. The usage of polystyrol voids can serve as a rational solution to the issue. Even employment of the latter has not yet gained a wide applicability in construction space of Ukraine. One cannot exclude also the possibility of emergence of a new type of voids, efficient and relevant to Ukrainian context on the basis of the existing world experience, briefly outlined in the paper.

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PSYHOPHYSIOLOGICAL AND SOCIAL ASPECTS OF FORMING OF THE ARCHITECTURAL ENVIRONMENT OF HOSPICES IN A MODERN CITY

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The need to develop and design palliative care objects arises as the result of increasing the sick rate of the population. The topic of the society attitude towards dying people runs through the whole history of the mankind. Taking care of dying people becomes relevant only in the end of the XVIIIth century, and the very direction of palliative care as a single branch in medicine, was formed only in the second half of the XXth century.

The aim of the research is to identify physiological and social aspects of forming of the hospices architectural environment in a modern city.

By definition, a hospice is a type of medical and social institution, where patients in the terminal stage of the disease receive adequate care, symptomatic (palliative) treatment and where spiritual, psychological, social and legal support is given both to the patient and the relatives *[1, c. 10]*.

Actually, a hospice is not only a specialized palliative care center, they are primarily designed to meet the spiritual, social, physical and psychological needs of the person, regardless of the diagnosis. Special aspects of the idea of hospice in the modern city are the interrelation of such concepts as "society", "space", "patient". The idea of spirituality and morality acquires a fundamental importance in the development of such a system.

In this regard, along with medical and technical aspects of forming of specialized centers the philosophical aspect acquires a special importance. Thus, the postulate of reverence for life of Albert Schweitzer - "there is life that wants to live among life" - can serve as a principle of the hospice philosophy. The hospice philosophy is based on the belief that by increasing the quality of the environment, patients can live fully and comfortably as far as possible in the given circumstances.

On the other hand, at the present stage of megacities development certain difficulties arise with the placement of such institutions which is related to the factors that combine natural, climatic and urban conditions. Functional specific characteristics of hospices dictate specific requirements to the organization of a barrier-free environment.